

Smart Sensors

U N I V E R S I T Y O F U T A H CENTER

In a general sense, Smart Sensors meld sensor, signal processing, and computer technologies to create new functionalities such as the ability to probe the environment and modify their function in order to improve their data gathering capability. Applications envisioned by this Center span medicine, precision agriculture, electronics manufacturing, wireless communication, transportation and radar.

TECHNOLOGY

The Center for Smart Sensors focuses on two core technologies that have the greatest commercial potential: The first core technology is circuitry for measuring length, distance or impedance; this enables a Smart Wire inspection system that can detect and locate faults or insulation breaks in aircraft wiring in real time. The second is the Imbedded Microstrip Antenna (IMA), which can sense or communicate in a buried environment. Both families of technologies are based on simple ideas and simple circuits that result in two critical characteristics -- they are **Small and Cheap**. This makes them applicable to a wide array of applications.

ACCOMPLISHMENTS

A single IMA antenna has now been demonstrated that can both sense and communicate. With a dozen pending and one issued patent, nearly seven figures worth of industry funding and two Utah spinout companies (LiveWire Test Labs, Inc. and RF Sensor Innovations), this Center is poised to make a significant contribution to Utah's presence in a number of markets. The commercialization of airline wiring fault detection is being accelerated with over \$1 million in funding from the FAA and commercial aircraft firms.

THINK TANK

What if there was...



**Early warning for
disk drive failure,
real-time detection
of shorts in
aircraft wiring,
and a system to
keep soldiers from
being run over by
tanks?**

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